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Psychiatric morbidity in two matched community samples: a comparison of rates and risks in Edinburgh and St. Louis

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Summary

The use of different diagnostic classifications of psychiatric disorder in the United States and the United Kingdom, together with associated changes in the operational definitions of disorder, has placed additional barriers in the way of U.S./U.K. comparative studies. However, the parallel development of two general population studies, one in Edinburgh and one in St. Louis, MO, has enabled a comparative analysis with limited objectives, to be undertaken. This paper presents results based upon matched samples of women from these studies. The findings revealed current overall prevalence, and the socio-demographic determinants of prevalence, to be similar in the two city samples. The results additionally indicate the consequence of applying diagnostic criteria appropriate to different ranges of psychiatric syndromes for the estimation of prevalence in general population samples.

Key words: *Cross-sectional studies – Diagnostic criteria – Longitudinal general population surveys – Risk factors – Women*

Introduction

During the years 1966–1968 the U.S./U.K. Diagnostic Project was undertaken to examine and account for observed disparities between the two countries in their hospital psychiatric admission rates for various diagnostic categories. That project (Cooper et al. 1972) revealed that whilst there were considerable differences in British and American mental hospital admission rates according to 'hospital diagnoses', when 'project diagnoses' were applied differences were dramatically reduced for all major categories of disorder. The project used a uniform structured interviewing procedure consisting of an early edition of the Present State Examination (PSE, Wing et al. 1974; Wing and Sturt 1978) and items from the Mental Status Schedule (Spitzer et al. 1964) together with a history interview to enable project diagnoses to be assigned. The findings and methodology of this project have had a profound influence on psychiatric research. One of its conclusions emphasized

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the fundamental point that if diagnostic concepts varied between countries, differences in prevalence and admission rates were likely to be spurious and research results and treatment studies to be of little cross-cultural value.

The years since the U.S./U.K. project have seen a considerable development in semi- and fully structured psychiatric assessment methods, not only in response to research findings, but also in relation to changes in, and adoption of, diagnostic classification schemes. Prior to 1968 different diagnostic taxonomies were being used in the United States and the United Kingdom. After that year the American Psychiatric Association (APA) adopted a glossary (DSM-II) which was based on the nomenclature of the eighth revision of the International Classification of Disease (ICD-8). However, in 1980 a new glossary (DSM-III) was published by the APA which was radically different from (the revised) ICD-9 which had been adopted by most other countries (e.g. see Kendell 1980; Skodol and Spitzer 1982). Currently the hope is that both the mental disorder section of ICD-10 and DSM-IV, now being planned, will have a common framework (see Kendell 1984).

Against this background of change, two further important developments occurred: the increasing specification of operational definitions for psychiatric disorders, and a growing interest in their use on general population samples. At Washington University in St. Louis, MO, the Feighner criteria were published (Feighner et al. 1972) and later the Renard Diagnostic Interview developed to enable those criteria to be applied to symptom data gathered by lay interviewers (Helzer et al. 1981a).

At about the same time, a standardized clinical interview was published (Endicott and Spitzer 1978) which enabled explicit criteria to be applied in a consistent way, and was borne of perceived inadequacies in the then current (DSM-II) glossary (Spitzer et al. 1978). These Research Diagnostic Criteria (RDC) and the interview, the Schedule for Affective Disorders and Schizophrenia (SADS), have had a major impact on psychiatric research in the United States. In the U.K., the PSE has been the major psychiatric research tool, with particular interest being given to the indices of 'syndromal clarity' that can be derived from its use (e.g. see Wing et al. 1978; Wing 1980).

The use of operational definitions for psychiatric disorders and their applications through structured interviews has reduced concerns with criterion and information variance, previously a major deterrent to undertaking cross-national studies. However, whilst a conclusion of the U.S./U.K. Diagnostic Project specified the intention to undertake such studies on community samples, this objective despite the changes in diagnostic practice has been largely unfulfilled.

Due to the fortuitous parallel development of two general population studies, one in Scotland the other in the United States, both utilising operational criteria for case identification and description, an opportunity was provided to undertake the present very limited U.S./U.K. comparative analysis. The study had the following aims:

(i) To compare one-month prevalence estimates of affective disorders in matched Edinburgh and St. Louis general population samples of women.

(ii) To examine the relationship between psychiatric disorder in the general population classified according to a simple categorization of conditions as opposed to a more detailed classification.

(iii) To establish whether the social and demographic determinants of prevalence are similar in the Edinburgh and St. Louis samples.

Design and Method

(i) The design of the Edinburgh survey

This community study was undertaken in a geographically discrete area of Edinburgh on a random sample of 576 women aged 18–65 years, representing an approximate 1/100 sample of those eligible for inclusion. Further details of the design of this initial survey are reported elsewhere (e.g. Surtees et al. 1983).

The principal aims of this multi-stage longitudinal research study are to compare and contrast different diagnostic schemes (e.g. see Dean et al. 1983), to describe the course, prevalence and incidence of psychiatric disorders identified in the general population (see Surtees et al. 1986a) and to examine the relationship between psychosocial factors and disorder (e.g. see Surtees 1984; Ingham et al. in press; Miller et al. 1985; Surtees et al. 1986b).

Psychiatric status was evaluated using a semi-structured clinical interview, the Psychiatric Assessment Schedule (PAS), based on the first 40 items of the PSE and selected items from the SADS. This symptom information allowed the application of the RDC and diagnostic algorithms associated with the PSE. However, the PAS was designed to have a very limited diagnostic range, encompassing only certain anxiety and depressive disorders.

A detailed assessment of each respondent's psychiatric status for the month preceding interview was obtained using the PAS. If significant symptoms of dysphoric mood were present (anxiety, loss of interest, or depression) then the interviewer followed a semi-structured schedule to probe for any key changes in symptom state and to establish accurately when the onset of each illness episode had occurred.

All PAS assessments were undertaken by a team of trained lay interviewers, and where permission was given, interviews were audio-taped. The tapes of all those women who fulfilled diagnostic criteria on the basis of lay interviewers' ratings (and a 1/10 sample of the rest) were re-rated by staff. Results presented below are based only upon women *confirmed* by staff as meeting diagnostic criteria. Further details of the PAS are given in an earlier report (Dean et al. 1983).

(ii) The design of the St. Louis survey

The Epidemiologic Catchment Area (ECA) project is a multi-centre collaborative study of psychiatric disorder in the general population. The design and methods adopted for this research have been described in detail elsewhere (e.g. Eaton et al. 1984; Regier et al. 1984; Eaton and Kessler 1985). Broadly the research aims to provide estimates of the prevalence and incidence of psychiatric disorders, to identify factors influencing their course, to estimate rates of health service use and to examine variables which influence help seeking for psychiatric conditions. The study centres in the United States are New Haven (CT), Baltimore (MD), St. Louis (MO), Los Angeles (CA) and Durham (NC). At each centre community mental health catchment areas were chosen with populations of at least 200 000 persons from which representative samples (in excess of 3000 respondents) were selected. This report has utilized data made available from the St. Louis ECA study.

The St. Louis sample was drawn from three noncontiguous catchment areas to provide variation in social status and urbanization. These areas were an inner city district of St. Louis, an inner suburb adjacent to the city of St. Louis and a three-county small town and rural area on the outskirts of the St. Louis metropolitan area. Census enumeration districts were selected from each of these catchment areas, with those districts having a preponderance of blacks being deliberately oversampled. One adult aged 18 years or older was selected at random from a systematic sampling of households. Interviews were obtained from 3004 respondents.

For this report a selected sub-sample of the St. Louis ECA population was obtained which matched, as far as was possible, the Edinburgh survey sample. Only white females aged 18–65 years were selected, and only from 'non-rural' enumeration districts. This sampling procedure resulted in 533 women being selected from all those completing the initial interview.

A new interview, the Diagnostic Interview Schedule (DIS), was specially devised by the Washington University Department of Psychiatry in St. Louis for use in all ECA centres. This highly structured interview designed to be used by lay interviewers, enables psychiatric diagnoses to be made according to Feighner criteria, the RDC, and selected categories of disorder from DSM-III. The development of the DIS has been described by its authors (Robins et al. 1981) who found that in a test–retest design satisfactory levels of agreement were obtained between diagnoses obtained through administration of the DIS by lay interviewers and psychiatrists. The inter-rater reliability and validity of the DIS have been discussed in more detail elsewhere (e.g. Hesselbrock et al. 1982; Robins et al. 1982; Anthony et al. 1985; Helzer et al. 1985; Robins 1985).

PAS–DIS item linkage

The design of the St. Louis ECA project provided a special opportunity for a 'linkage' study between the Edinburgh and St. Louis surveys. The St. Louis ECA sample had been re-interviewed one year after initial assessment using the DIS, but with certain key changes. The inverview represented a draft of a joint DIS–PSE (therefore incorporating additional questions designed to allow the operation of the diagnostic procedures allied to the PSE) and in *addition* incorporated 'recency probes' for all symptom questions, to establish the last time they had been experienced by respondents. Because of these changes, material from this interview was used as the basis for a comparison exercise with results obtained in Edinburgh.

To achieve this objective, equivalent symptom items from the DIS given at follow-up, were found to those asked in the PAS. This process was straightforward for most items, but for a subgroup there was difficulty, and for a few no equivalent was present in the DIS. A computer 'linkage' program was written to reflect the decisions made concerning item equivalence in the two interviews. The operation of this program on the DIS-based data provided a new data set which resembled in content and format that obtained in Edinburgh using the PAS. However, to ensure absolute equivalence in base data for comparison purposes, responses to those symptom items asked in Edinburgh, for which *no* equivalence could be found in the DIS, were omitted for analysis purposes. An outline of the relationship between the linkage program, the two surveys and applied diagnostic criteria, is shown in Fig. 1.

Through abbreviations (e.g. DIS/RDC) the figure indicates the interview used and the diagnostic scheme applied to symptom ratings derived from it. The abbreviation RDCL means that the RDC scheme is applied but only over a *limited* (L) range of disorders. A further point requiring some clarification is the basis upon which these diagnostic criteria were applied. In the comparisons to follow, the RDCL scheme was applied to symptoms rated as co-occurring within the month preceding interview. To achieve a diagnosis in the month therefore all necessary criteria had to be fulfilled during that time. Analyses on the St. Louis sample according to RDC and DSM-III criteria were with the adoption of the procedures applied in the ECA for the definition of illness episodes – where whilst all the criteria for a given disorder had to be met, no temporal constraint on the co-occurrence of symptoms was enforced. Achieving a diagnosis within a given time by these means did not therefore require all criteria to be met within that time.

Results

As indicated above, matching between the Edinburgh and St. Louis surveys was limited to sex, race, age and urban location. Analysis revealed

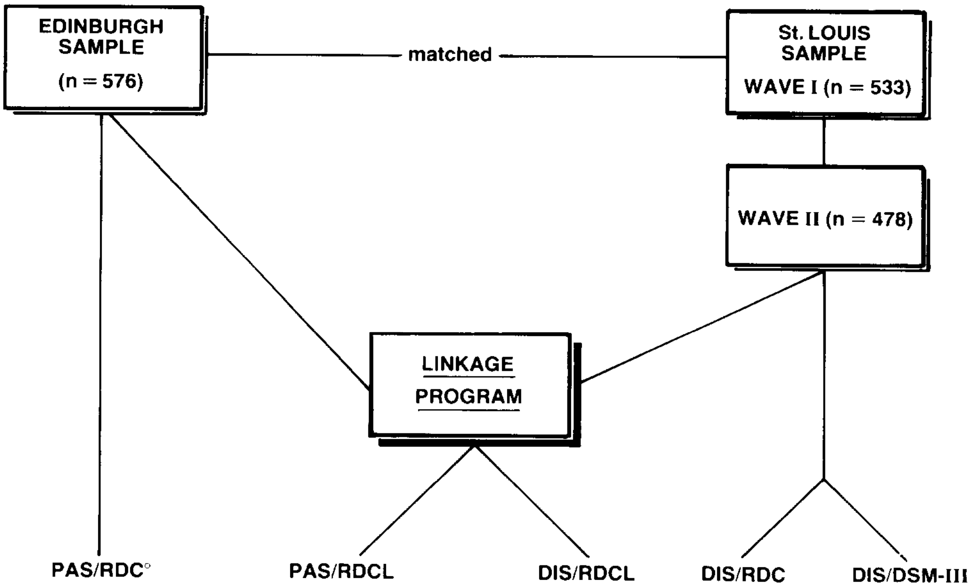

Fig. 1. The relationship between the linkage program, the Edinburgh and St. Louis surveys and applied diagnostic criteria.

that the mean ages of the two samples were non-significantly different (Edinburgh 38.5 years, St. Louis 39.4 years, $t = 1.06$, $df = 1107$, ns). However, of the 533 women selected from the ECA sample, 478 had been re-interviewed one year later and for the reasons stated earlier, these formed the basis for the comparative analysis with the Edinburgh sample. When the age of *this* ECA follow-up sub-sample was collapsed into the categories shown in Table 1, then the distributions were significantly different, the St. Louis sample including, perhaps by chance, more older women than the Edinburgh sample.

TABLE 1

DEMOGRAPHIC CHARACTERISTICS OF THE TWO SAMPLES OF WOMEN

	Edinburgh sample (n = 576)			St. Louis sample (n = 478)	
	n	%		n	%
Age					
18–34	283	49.1		217	45.4
35–54	193	33.5		134	28.0
55–65	100	17.4		127	26.6
χ^2 (2 df)			13.6 **		
Marital status					
Single	121	21.0		92	19.4
Married and living with husband	350	60.8		256	54.0
Others [a]	105	18.2		126	26.6
χ^2 (2 df)			10.6 **		
Employment status					
Employed [b]	407	70.7		285	59.6
Not employed	169	29.3		193	40.4
χ_c^2 (1 df)			13.6 ***		

[a] Includes divorced, widowed, separated, cohabiting and those married but not living with their husband (St. Louis sample has missing data for four women).

[b] Includes those working full-time or part-time, and full-time students.

** $P < 0.01$; *** $P < 0.001$.

Table 1 shows the distribution of the two samples by marital and employment status also to be significantly different, with the Edinburgh sample including rather more women married (living with their husbands), and rather more in employment than the St. Louis group.

The range of potential RDC disorders ascertainable in the Edinburgh survey was limited intentionally to certain depressive and anxiety conditions. The diagnostic breakdown achieved through the matching and item linkage procedures, described above, is shown in Table 2.

As the table shows, not only is the (one-month) estimate of overall prevalence amongst the two samples similar (case/non-case distribution yields a $\chi_c^2 = 1.4$, 1 df, ns), but the distribution of diagnostic categories is also non-significantly different ($\chi^2 = 7.13$, $df = 4$, ns).

Given this similarity in one-month RDC prevalence estimates, determined through equivalent procedures, the following analyses were designed to reveal the consequences for case ascertainment of applying the RDC as used in the ECA. It is noteworthy that the application of the RDC to version III of the DIS, whilst having the potential to allocate individuals to a broad range of diagnostic categories did not include either generalized anxiety disorder or minor depressive disorder.

Application of the algorithms written specifically for the DIS provides RDC diagnoses *with* or *without* allowance for excluding diagnoses. It is possible therefore to characterize the current morbidity of a population very differently, according to the degree to which the diagnostic rules are applied. Some indication of this was revealed by determining the one-month prevalence estimates of RDC disorder amongst the ECA follow-up sub-sample of 478 women both with and without applying exclusion rules, and of course, according to the ECA procedures for illness episode determination.

Without exclusion, diagnostic criteria were fulfilled for 90 disorders, with exclusion rules this dropped to 73. * The analysis indicated that the effect on this particular group was limited for most diagnostic categories; only those disorders considered lowest in a theoretical hierarchy being subject to the greatest effects of exclusion rules, through their co-occurrence with 'dominant' disorders.

The disorders identified by these analyses were

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* Table available from the authors.

TABLE 2

ESTIMATED ONE-MONTH PREVALENCE OF PSYCHIATRIC DISORDER AMONGST MATCHED SAMPLES OF WOMEN

Rates determined according to PAS/RDCL (Edinburgh) and DIS/RDCL (St. Louis).

Disorder	Edinburgh sample (n = 576)		St. Louis sample (n = 478)	
	Frequency	(%)	Frequency	(%)
Major depressive disorder	18	3.1	9	1.9
Minor depressive disorder	24	4.2	22	4.6
Panic disorder	2	0.3	2	0.4
Generalized anxiety disorder	24	4.2	36	7.5
Total	68	11.8	69	14.4

distributed among 57 women, indicating that 11.9% of the St. Louis ECA sub-sample fulfilled the criteria for one or more current RDC disorders. This estimate is comparable to that determined previously, for both city samples, but according to the item linkage procedure. To facilitate examination of the relationship between the two ascertainments of case status, decisions had to be made regarding the grouping of those women assigned *multiple* current DIS/RDC disorders after exclusion rules were applied. Whilst any decision would only affect a relatively small group of women (12/57, 21%), it would necessarily have consequences for the diagnostic breakdown for the entire sample.

Strategies for characterizing individuals with multiple diagnoses depend essentially upon the purpose. From a clinician's viewpoint, diagnostic description is usually influenced by knowledge of the past and current history of conditions, by the temporal sequence of clinical change, by response to treatment and seldom by the rules underlying research diagnostic schemes. Most psychiatrists still apply a diagnostic scheme which embodies a simple hierarchy extending from organic states (highest) through the schizophrenias and depressive disorders to categories of neurotic disorder (lowest), and which appropriately continues to attract research interest (e.g. Foulds 1976; Surtees and Kendell 1979; Sturt 1981; Boyd et al. 1984; de Jong et al. 1984; Morey 1985).

In the absence of the detailed clinical information needed to guide more specific judgments, we chose to operationalize our decisions regarding assignment of a particular diagnosis where more than one was given, in the following way: (i) to apply the RDC scheme together with exclusion rules, and where this still resulted in multiple current diagnoses, (ii) to apply the following hierarchical scheme (in which disorders higher in the scheme pre-empt lower ones) intended to share elements of current clinical practice, i.e. (from high to low) cognitive impairment, schizophrenia, schizo-affective conditions, major depressive disorders, obsessive-compulsive disorders, phobias, panic disorders and in addition, to allow all of these conditions where they co-occurred with any of the substance use disorders, somatization or anti-social personality disorder to *pre-empt* those conditions. As stated above, the consequence of these arbitrary decisions, additional to those already embodied in the RDC, affects just 12 women but facilitates comparisons of case status assignment according to different methods. Given that the influence of the additional rules on the prevalence of individual disorders was found to have had only a minor effect, it was now possible to examine the relationship between DIS/RDC and DIS/RDCL case status ascertainment. The results shown in Table 3 therefore indicate the frequency of RDC disorders amongst this St. Louis sample most of which were not ascertained in Edinburgh.

The table reveals that there is very limited agreement between the two classifications in assignment of case status to women in the sample. However, this is precisely what would be expected, given that case determination by DIS/RDC does

TABLE 3

CASE STATUS ALLOCATION BY DIS/RDCL TO THOSE (St. LOUIS) WOMEN ASSIGNED DIS/RDC DISORDERS

RDC Disorder	Case classification by RDCL		Total
	Case	Non-case	
Cognitive impairment (severe)	0	1	1
Schizophrenia	4	1	5
Major depression	9	1	10
Schizo-affective disorder	4	0	4
Hypomania	1	0	1
Phobia	10	11	21
Panic	1	0	1
Obsessive-compulsive	0	1	1
Somatization	1	0	1
Antisocial personality	0	2	2
Substance use disorders	5	5	10
None assigned	34	387	421
Total	69	409	478

not include either generalized anxiety disorder or minor depressive disorder. The value of the analysis rests on the diagnostic breakdown of those 91 women (19.0%) who fulfil either or both case classification methods for a current disorder.

Given the above, the majority of those 34 women designated cases by DIS/RDCL but *not* by DIS/RDC should have either generalized anxiety disorders or minor depressive disorders. Analysis confirms that 32 of the 34 (94%) have such conditions: 22 with generalized anxiety disorder, and 10 with minor depressive disorder. The remaining two women had probable major depressive disorders. These results therefore underpin the differences between the two case determination methods.

However, of particular interest in relation to the Edinburgh work, is the diagnostic breakdown of those with DIS/RDC disorders according to whether they were so identified by DIS/RDCL. The table reveals that the RDCL case classification procedure was successful in identifying as cases the majority of those women with schizophrenia, major depression and schizo-affective disorder. Surprisingly, half of the women with substance-use disorders were also identified. However, the distribution of disorders according to DIS/RDC which were *non-cases* by RDCL, appears to be a direct consequence of interview design. The PAS incorporated the first 40 items of the PSE, and also adopted the guidelines on the use of section cut-offs, where key anxiety symptoms were not present. The results shown in Table 3 clearly indicate that the majority of phobias were not identified and it must be assumed that this was due to rigid adherence to interview cut-offs. Those 11 losses shown in the table, represent 50% of all those not identified as cases, but it would appear that this could be corrected by a simple change to interview instructions.

The relationship between disorder classification by DIS/RDCL and DIS/RDC for those 35 women where there was agreement on case status, is shown in Table 4.

Once again the analysis is most revealing insofar as it indicates the consequence of applying a classification scheme encompassing a limited range of conditions in contrast to that same scheme though with a much broader range of diagnostic categories. It would appear, and not unexpectedly, that diagnostic refinement has its greatest effect amongst those women classified by RDCL as having minor depression or generalized anxiety disorders.

The principal diagnostic scheme in use in the United States is DSM-III, and the DIS was designed to allow psychiatric diagnoses, based on that scheme, to be determined. Whilst DSM-III evolved from the RDC, there are many differences in detail between them which could lead to variation in case status assignment when the two schemes are applied to the same population (e.g. see Williams and Spitzer 1982). Amongst the present ECA sub-sample 56 women (11.7%) had one or more current (one-month based) DSM-III disorders, and when these were cross-classified with those with current DIS/RDC disorders, a 99% level of agreement was achieved on case classification between the two schemes. However, it is likely that whilst differences in diagnostic criteria had little consequences for case status determination, such differences would have their effect on the diagnostic breakdown according to the individual schemes.

The results so far have revealed close agreement on one-month prevalence estimates of psy-

TABLE 4

CASE CLASSIFICATION ACCORDING TO DIS/RDC AND DIS/RDCL FOR THOSE (St. LOUIS) WOMEN ASSIGNED A CURRENT (ONE-MONTH) DIAGNOSIS BY BOTH METHODS

Case classification by RDC	Case classification by RDCL				Total
	Major depressive disorder	Minor depressive disorder	Panic disorder	Generalized anxiety disorder	
Schizophrenia	2			2	4
Major depression	3	3		3	9
Schizo-affective disorder		2	1	1	4
Hypomania				1	1
Phobia	1	4	1	4	10
Panic		1			1
Somatization	1				1
Substance use disorders		2		3	5
Total	7	12	2	14	35

chiatric disorder obtained in Edinburgh (PAS/RDCL) and in St. Louis (DIS/RDCL), as summarised in Table 2. Further, most differences between results may be accounted for either in terms of diagnostic range or interview procedure. It would appear also that there is considerable agreement on case status assignment by both DIS/RDC and DIS/DSM-III on the ECA sub-sample. Given these results, the final analyses were undertaken to establish whether the association between the presence of particular factors and case status was consistent in Edinburgh and St. Louis, and additionally whether variation in case status determination altered findings.

The initial analysis examined the relationship between three demographic factors (age, marital and employment status) and current (one-month) psychiatric morbidity as determined in Edinburgh by PAS/RDCL and in St. Louis by the equivalent DIS/RDCL. The analyses were repeated on the St. Louis sub-sample, when current case status was replaced in turn by DIS/RDC and DIS/DSM-III. The results are shown in Table 5.

In general, the findings reveal some consistency in the association between individual demographic factors and case status in the Edinburgh and St. Louis samples, for equivalent applications of the RDC. For age the pattern of morbidity estimates according to RDCL was similar in the two cities, with the middle-aged having the highest rates. This was in contrast to that found under both RDC and DSM-III, where those women in the youngest age group recorded the highest rates. When prevalence estimates were examined amongst marital status sub-groups, results varying by diagnostic scheme were also found. As can be seen from the table, whilst the RDCL scheme produced a consistent pattern of morbidity estimates with the divorced, widowed or separated recording the highest rates – those single had the lowest. This patterning is different from that obtained by RDC or DSM-III where the married sub-group had the lowest prevalence of current disorder. All diagnostic schemes revealed a trend for those women not employed to have a higher rate of disorder, though only amongst the Edinburgh sample was this significantly so. It will be recalled that DIS/RDC does not include either generalized anxiety disorder or minor depressive disorder. In addition, because of the absence of recency items, DIS/DSM-III does not include those women with current dysthymia. Overall therefore there is some consistency in findings between DIS/RDC and DIS/DSM-III within the ECA sample, although it is clear that the patterning of case rates amongst age and marital status

TABLE 5

ESTIMATED CURRENT (ONE-MONTH) PREVALENCE (%) OF PSYCHIATRIC MORBIDITY AMONGST TWO SAMPLES OF WOMEN ACCORDING TO ALTERNATIVE DIAGNOSTIC CRITERIA BY DEMOGRAPHIC FACTORS

Factor	Edinburgh sample		St. Louis sample	
	PAS/RDCL	DIS/RDCL	DIS/RDC	DIS/DSM-III [a]
Age				
18–34	9.9	13.4	14.6	15.2
35–54	16.1	17.9	11.9	11.2
55–65	8.9	12.6	6.7	6.3
χ^2 (2 *df*)	(5.3)	(1.9)	(4.6)	(6.2 *)
Marital status				
Single	5.8	10.1	13.9	13.9
Married and living with husband	10.0	10.6	7.5	8.3
Others	24.8	24.1	19.1	17.0
χ^2 (2 *df*)	(22.2 ***)	(14.8 ***)	(12.0 **)	(7.1 *)
Employment status				
Employed	8.4	11.9	10.2	10.5
Not employed	20.1	18.1	14.5	13.5
χ_c^2 (1 *df*)	(14.8 ***)	(3.1)	(1.7)	(0.7)

[a] Excludes dysthymia.

* $P < 0.05$; ** $P < 0.01$; *** $P < 0.001$.

sub-groups is likely to have been influenced according to the range of diagnostic categories assessed.

A further analysis replaced demographic with living group factors and determined their association with current case status as applied above. The results shown in Table 6 are of particular interest, as whilst the proportion of women living alone in the St. Louis sample was significantly greater than in the Edinburgh sample ($\chi_c^2 = 11.27$, $df = 1$, $P <$

TABLE 6

ESTIMATED CURRENT (ONE-MONTH) PREVALENCE (%) OF PSYCHIATRIC MORBIDITY AMONGST TWO SAMPLES OF WOMEN ACCORDING TO ALTERNATIVE DIAGNOSTIC CRITERIA BY LIVING GROUP FACTORS

Factor	Edinburgh sample		St. Louis sample	
	PAS/RDCL	DIS/RDCL	DIS/RDC	DIS/DSM-III
Living alone	14.1	14.6	9.0	7.9
All others	11.5	14.4	12.6	12.6
χ_c^2 (1 *df*)	(0.2)	(0.0)	(0.6)	(1.1)
Living with $\geqslant 3$ children	22.2	25.6	16.3	18.6
All others	10.9	13.4	11.5	11.1
χ_c^2 (1 *df*)	(4.1 *)	(3.8 *)	(0.5)	(1.5)
Living with $\geqslant 1$ child and no adults	29.6	42.9	35.7	35.7
All others	10.9	12.7	10.4	10.2
χ_c^2 (1 *df*)	(6.9 **)	(17.1 ***)	(13.7 ***)	(14.2 ***)

* $P \leqslant 0.05$; ** $P < 0.01$; *** $P < 0.001$.

0.001), the relative proportions of the other factors in the two samples were not significantly different (presence of $\geqslant 3$ children, $\chi_c^2 = 0.4$, $df = 1$, ns; $\geqslant 1$ child + no adult, $\chi_c^2 = 0.5$, $df = 1$, ns).

The results indicate, perhaps more strongly than those concerning demographic factors, a remarkable consistency in association between the three living group factors and current case status as determined by RDCL, in both the Edinburgh and St. Louis samples. The analysis also revealed that both DIS/RDC and DIS/DSM-III produced similar results within the ECA sample, and differed in only one respect from findings obtained using RDCL, in that the association with $\geqslant 3$ children in the household was non-significant.

Discussion

Ideally, studies designed from the outset to undertake cross-cultural prevalence comparisons, should employ identical methods, diagnostic criteria and shared research teams. In their absence, estimates of the variation in rates between centres can only be gauged through results reported from quite independent studies. However, this strategy provides only a few possibilities for comparative analysis.

The use in Edinburgh of multiple diagnostic criteria has enabled comparison with other U.K. studies using the PSE or Bedford College criteria (e.g. Finlay-Jones et al. 1980; Bebbington et al. 1981). Appropriate international comparisons have been limited to a Canberra survey (Henderson et al. 1981) and a second follow-up undertaken after several years in a north-eastern area (New Haven) of the United States (Weissman et al. 1980). Whilst all of these studies differed in design, when comparisons were restricted to the published data on female sub-samples, not only were overall current (one-month) prevalence estimates broadly similar, but so were those for anxiety and depressive disorders. However, these inelegant comparisons, whilst providing numerically equivalent rates of disorder, carry with them the dangerous assumption that the study methodologies, statistical analyses, application of diagnostic criteria and range of syndromes assessed were indeed basically similar. Without study differences being clearly defined or controlled for, the value of cross-national epidemiological comparisons of the relationship between specific disorders and independent variables is reduced.

The present study was therefore undertaken with very specific objectives. Our primary aim was to compare one-month prevalence estimates of certain affective disorders in matched samples of women obtained from two very different cities. The result of performing equivalent analysis procedures upon these samples produced similar rates of disorder. It is important to remember that the equivalence in rates is based upon symptom ratings made in very different ways. The DIS is a highly structured interview and requires the interviewer to adhere to the specific probes. This is in marked contrast to the method adopted in the Edinburgh study, where interviewers were encouraged to ask those questions they felt necessary in order to obtain sufficient information to rate symptoms. The Edinburgh study procedure then required staff to re-rate lay interviewers' case tapes — a lengthy and expensive but necessary procedure to ensure rating reliability. If this additional exercise can be avoided with little change in the reliability and 'procedural validity' of the assessment (Klerman 1985), then a broader adoption of the DIS form of interview procedure is justifiable.

A second aim of the study was to gain some insight into the extent to which psychiatric syndromes would be missed entirely or mis-classified through applying a simple, rather than a complex, classification of conditions. The results suggested that the limited scheme (RDCL) was most likely to miss phobic disorders and that this could be attributed to the design of the interview. It would seem therefore that (PSE) interview cut-offs associated with the absence of symptoms of autonomic anxiety should not be applied, at least to community samples. Apart from this, the results indicated that applying RDCL was successful in identifying the majority of those women with current major disorders.

Additional analyses were devoted to establishing whether the social and demographic determinants of prevalence were similar in the Edinburgh and St. Louis samples. The results revealed considerable similarity between the samples when case status was ascertained according to equivalent criteria. Unfortunately the relatively small sample sizes precluded undertaking the analyses in terms of specific diagnostic categories.

To summarize, this study used pre-existing data determined from different diagnostic instruments, different methodologies and with no cross-validation of assessments. It seems justifiable on these grounds therefore to ask whether the study was warranted and whether the conclusions can be of any value for further studies. On both counts the answers have to be in the affirmative, even if only for their value in underpinning the findings in Edinburgh and pointing to possible future directions for research into interview design.

The ECA studies represent an immense financial commitment to psychiatric research in the community and their findings, now being published (e.g. Myers et al. 1984; Robins et al. 1984; Weissman et al. 1984), will have a considerable impact in the United States on the provision of community services and on health care policy. However, the international value of those findings will be limited unless there is an alignment of internationally applied diagnostic taxonomies, unless diagnostic instruments start to evolve on the basis of a common core, and unless agreement is reached on the operational definitions of syndromes and their translation into computer-interpretable algorithms. The alternative is continued poor communication, research insularity, and the disregard of what might otherwise be important and influential findings.

There is already, of course, considerable consensus on these issues and currently strategies are being considered for their resolution. The DIS, through enabling multiple diagnostic criteria to be simultaneously applied, reflects the current opinion (e.g. Strauss and Gift 1977; Kendell 1982), that where boundaries between syndromes are as yet unclear, operational definitions need to be allowed to compete in terms of their value for case identification, prognosis, treatment selection and validity (e.g. see Helzer et al. 1981b; Wittchen et al. 1985).

The St. Louis ECA follow-up interview, which formed the basis for the analysis in this paper, represented a draft of a joint DIS–PSE, now called the Composite International Diagnostic Instrument (CIDI). This interview is intended to provide a bridge between currently used U.S./U.K. research diagnostic schemes. However, it is likely that there will *not* be one international diagnostic instrument, but several, and each fulfilling a particular purpose. Most likely is a standardized clinical interview which is itself adaptable to specific needs (e.g. a short and longer form, as with PSE-9), but which attempts to document *episodes* of psychiatric disability, rather than mental state over a particular time. These changes can be seen in both the draft of PSE-10 and in the Structured Clinical Interview for DSM-III (SCID) developed by Spitzer and Williams.

It is clear therefore that cross-cultural epidemiological comparisons offer an opportunity for new insights into the evolution of specific psychiatric disorders in the community, but that their value and influence will depend not only upon the use of reliable and valid methods, but also upon the adoption of a common framework for the classification of psychiatric disorders.

Background

The Edinburgh community study described in this article was designed and completed by the following staff members of the MRC Unit for Epidemiological Studies in Psychiatry, Edinburgh, Scotland: Jack Ingham, Norman Kreitman, Patrick Miller, Sashi Sashidharan and Paul Surtees, together with Christine Dean, who is now at the Department of Psychiatry, Manchester Royal Infirmary.

The Epidemiologic Catchment Area Program is a series of five research studies undertaken by independent research teams in collaboration with staff of the Division of Biometry and Epidemiology of the National Institute of Mental Health (NIMH). The NIMH Principal Collaborators are: Darrel A. Regier, Ben Z. Locke and William W. Eaton; the NIMH Project Officer is Carl A. Taube. The Principal Investigators and Co-Investigators from the five centres are: Yale University, UO1 MH 34224, – Jerome K. Myers, Myrna M. Weissman and Gary L. Tischler; Johns Hopkins University, UO1 MH 33870, – Morton Kramer, Ernest Gruenberg and Sam Shapiro; Washington University, St. Louis, UO1 MH 33883, – Lee N. Robins and John Helzer; Duke University, UO1 MH 35386, – Dan Blazer and Linda George; University of California, Los Angeles, UO1 MH 35865. – Richard L. Hough, Marvin Karno, Javier I. Escobar, M. Audrey Burnam and Dianne M. Timbers.

This comparative study was commenced whilst the first author was a visiting lecturer at Washington University, St. Louis, MO, and made possible only through the considerable support and encouragement provided by Lee Robins.

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